

STERNA FLUVIATILIS, Naum.

PODICEPS CRISTATUS (Linn.).

PODICEPS GRISEIGENA (Bodd.).

PODICEPS NIGRICOLLIS (C. L. Brehm).

Of the last fourteen species one specimen only of each was sent, with the exception of *Podiceps griseigena*, of which there were a pair of adult birds and several eggs. There were also eggs of *Podiceps nigricollis* sent, but all of them were broken. All the specimens were stated to have been obtained in the neighbourhood of Erzeroom, but no notes accompanied the collection, and merely a list, on which several species were marked as being common, was appended.

XXXIII.—On a Collection of Birds from Western Szechuen.
By HENRY SEEBOHM.

MR. A. E. PRATT has lately returned from an entomological expedition to the Chinese frontiers of Thibet, and has brought with him a small collection of birds, chiefly from a locality 13,500 feet above the sea-level, a little to the west of Tachien-lu, about 30° north latitude and 102° west longitude, ten days' journey south-east of Moupin, where l'Abbé David made so many interesting discoveries.

Although there are no novelties in the collection, there are examples of several species of great interest.

MERULA KESSLERI.

There are four males and two females in the collection, whence it may be inferred that this fine Ousel is not uncommon in Western Szechuen. There is no example of *Merula gouldi* in the collection, which is rather remarkable, as l'Abbé David did not find *Merula kessleri* in either China or Thibet, but states that *Merula gouldi* was very common both in Western Szechuen and in Eastern Thibet. I have examples of both these species collected by General Prjevalski in Kansu. Mr. Pratt's examples were all obtained amongst

the pines and rhododendrons above Ta-chien-lu, about 13,000 feet above the sea-level.

† MERULA RUFICOLLIS.

There are two examples in Mr. Pratt's collection which are only referable to this species. They have much rusty-red on the breast and tail, but none on the back or flanks.

† GRANDALA CÆLICOLOR.

There are several examples of this species in the collection. It lives on the rocks close to the limit of perpetual snow, and only descends to 8000 feet during exceptionally severe snow-storms. It is an insect-eating bird, and is said to look exactly like a Swallow on the wing.

† NILTAVA SUNDARA.

There is one example of this species in the collection. Mr. Pratt picked it up dead near a glacier 16,000 feet above the sea.

† PYRRHOCORAX GRACULUS.

An example in the collection measures $12\frac{1}{4}$ inches in length of wing from carpal joint, 2 inches in length of bill from frontal feathers, and 2.2 inches in length of tarsus. These may be regarded as typical measurements, rather larger than the form usually found in the extreme west of the Palæarctic Region (wing $10\frac{3}{4}$ to 12 inches), or than that found in the extreme east of that region (wing $10\frac{3}{4}$ to 12 inches), but not quite so large as those that are sometimes found in the intervening district from Asia Minor across Afghanistan and Turkestan to the Himalayas (11 to $13\frac{1}{4}$ inches). It seems probable that when larger series have been examined neither the supposed large rare *Pyrrhocorax graculus himalayanus* (Gould), nor the supposed small race, *Pyrrhocorax graculus brachypus* (Swinhoe), will be maintainable. Dr. Sharpe is in error in giving the name *Fregilus graculus*, var. *orientalis*, precedence over that of Swinhoe. It was not given by Dybowsky (J. f. Orn. 1868, p. 332), as stated by him in the third volume of the 'Catalogue of Birds in the British Museum,' but four years later by Taczanowski (J. f. Orn. 1872, p. 454).

Mr. Pratt found the Chough near two lakes which he discovered above Ta-chien-lu about 16,000 feet above sea-level. They appeared to be breeding in some caves in the rocks, within sight of a large glacier.

CORVUS PASTINATOR.

There is an immature example of this species in the collection. It agrees in every respect with adult examples of the species from China and Japan, except that it still retains the feathers which cover the nostrils.

+ PARUS BEAVANI.

There is an example in the collection of this miniature of *P. rufonuchalis*. It was common in the forests about 13,000 feet above the sea-level, and bred in holes in the trees. The eggs resemble those of *Parus cristatus*.

TROGLODYTES NIPALENSIS.

Mr. Pratt found a nest of this Wren near his camp (13,000 feet) in a stump of a rotten tree. The nest was domed, and the eggs do not differ from those of *Troglodytes parvulus*.

TICHODROMA MURARIA.

There is an example of this species in the collection in adult summer plumage. In young in first plumage of the Wall-Creeper, whilst the bill is rather short, and before it has become much decurved, the throat and upper breast are grey, almost as dark a grey as the lower breast and belly. The crown is almost as dark as it is in summer plumage. It appears that the immature plumage is retained during the first winter. Mr. Dresser in his 'Birds of Europe,' and Dr. Gadow in the 'Catalogue of Birds,' describe the plumage of the young as similar to that of the adult in winter, which is certainly not the case.

+ LANIUS ERYTHRONOTUS.

There is an example of this species in the collection.

+ PERICROCOTUS BREVIROSTRIS.

There is an example of this species in the collection.

POMATORHINUS GRAVIVOX.

There are two examples in the collection of this very distinct species, which was described in 1873 (David, Ann. Sc. Nat. xviii. Art. v. p. 2), and figured in 1877 (David et Oustalet, 'Les Oiseaux de la Chine,' pl. 49).

When Mr. Wardlaw Ramsay wrote his monograph of the genus *Pomatorhinus* (Ibis, 1878, p. 143) he had had no opportunity of examining an example of *P. gravivox*, otherwise he would never have united it with *P. macclellandi* from Assam, nor would Dr. Sharpe have repeated the error in the seventh volume of the 'Catalogue of the Birds in the British Museum.'

I have already had occasion to point out how absolutely distinct *P. swinhoei* is from *P. erythrocnemis* (Proc. Zool. Soc. 1890, p. 342). I have now much pleasure in vindicating the character of another of the species of l'Abbé David, and of pointing out its true affinities. It may be somewhat closely allied to *P. swinhoei* and *P. erythrocnemis*, but is quite distinct from both of them, and differs still more widely from *P. macclellandi*.

It differs from its Assam ally in many ways, but the two points which catch the eye at once are its much larger size and the blackness of the spots which are so conspicuous on its breast. It is one of the largest species in the genus: wing 3·7, tail 4·6, culmen 1·4, and tarsus 1·4 inches. In the colour of its upper parts it certainly does resemble *P. macclellandi*, but there the resemblance ceases. In the colour of its underparts it resembles *P. erythrocnemis*, except that the throat is nearly white and the lower throat and upper breast are spotted with nearly black.

So far as is known, there are only three species of *Pomatorhinus* which combine the two characters of having no white eye-stripe, but possessing nearly black pectoral spots. As *P. swinhoei* was omitted by accident from the key to the species of its genus in the Catalogue of the Birds in the British Museum, I append diagnoses of these three species, which scarcely differ in size:—

POMATORHINI pectore maculis nigris ornato; superciliis haud albis :	{	dorso castaneo; pectoris lateribus et tibiæ plumis canis <i>swinhoei</i> .
		dorso rufo-brunneo; pectoris lateribus et ti- biæ plumis brunneis.... <i>erythrocnemis</i> .
		dorso cano-brunneo; pectoris lateribus et tibiæ plumis castaneis <i>gravivox</i> .

It is rather curious that the Formosan species should be intermediate between that found on the mountains of North Fokien and that inhabiting the mountains of the Upper Yang-tze; but as it is only found in Formosa at an elevation of at least 2000 feet, it may enjoy a climate intermediate between those inhabited by its two allies.

Mr. Pratt found it about 10,000 feet above the sea, amongst the rhododendrons.

TROCHALOPTERON ELLIOTI.

An example in the collection agrees with specimens collected by General Prjevalski in Kansu. Mr. Pratt found it about 10,000 feet above the sea in company with the following species.

† LEUCODIOPTRON CHINENSE.

Mr. Pratt found this bird very common at about 10,000 feet above the sea-level.

† COCCOTHTRAUSTES CARNEIPES.

There is an example of this species in the collection.

† CARPODACUS DUBIUS.

There are two males of this species in the collection, which resemble two males collected by General Prjevalski in Kansu. I have three females from the latter locality. This sex appears to have been unknown to Dr. Sharpe when the twelfth volume of the 'Catalogue of Birds in the British Museum' was written. They resemble the females of *C. thura* in having the rump and most of the upper tail-coverts suffused with yellow, but they differ from them in not having the throat and breast suffused with buffish brown.

The males of *C. dubius* and *C. thura* are so much alike that were it not for the difference between the females they could

scarcely be regarded as distinct. When carefully compared it appears that the male of *C. dubius* is somewhat greyer in the brown of its upper parts, and slightly deeper in the red of its underparts.

I am inclined to think that *C. thura* is confined to the Himalayas, and that the pair of birds which l'Abbé David obtained in Western China, and identified as *Propasser thura*, ought to have been referred to *C. dubius*.

+ CARPODACUS RUBICILLOIDES.

A female of this species in the collection agrees with other females collected by General Prjevalski in Kansu. The rump is not suffused with either red or yellow; most of the feathers have a broad dark shaft-streak, which is conspicuous on the underparts, including the flanks and under tail-coverts, and on the upper parts except on the rump and upper tail-coverts, where it is very obscure. This brings us down to the bottom of page 390 in Dr. Sharpe's key to the species in the twelfth volume of the 'Catalogue of Birds in the British Museum,' where it completely breaks down. *C. roseipectus* has probably been inserted by accident, as it belongs to the smaller group on the next page, and brings the key to a premature end, where it now stands. The characters which follow are of no value: "wing over 3.6 inches" will not include any female of *C. grandis* in my collection, and does not include the female of *C. rhodochlamys* described in the Catalogue. I quite agree with Dr. Sharpe (*op. cit.* p. 407) where he says that the female of *C. rhodochlamys* is not distinguishable from that of *C. grandis*, and consequently I disagree with his assertion (*op. cit.* p. 391) that the former differs from the latter in having the rump streaked with blackish brown. The nearly uniform rump is characteristic of *C. ruticilla* and *C. severtzovi*, which differ from each other in their under tail-coverts, the former species having very broad and the latter very narrow dark centres to these feathers. These two species are larger (wing $4\frac{1}{2}$ to $4\frac{1}{4}$ inches); *C. rubicilloides* occupies a medium position (wing $4\frac{1}{8}$ to $3\frac{7}{8}$ inches); whilst *C. grandis* and *C. rhodochlamys* are smaller (wing $3\frac{5}{8}$ to $3\frac{3}{8}$ inches).

† ÆTHOPYGA DABRYI.

Mr. Pratt's collection contains a male of this pretty little Sun-bird, the type of which was collected on the hills above Ta-chien-lu by Monseigneur Chauveau, and was sent by him to M. Dabry, after whom it was named (*cf.* Sclater, *Ibis*, 1870, p. 296).

It was got at Ta-chien-lu, where it is said to come every year when a certain plant is in flower about May, but as soon as the flower is over to leave and breed in some other locality.

† PICUS CABANISI.

There is an example of this species in the collection. There is very little white on the tertials, and consequently it must be referred to the race which is most abundant in South China, and which, as it was described first, must be regarded as the typical race. In North China a form occurs which differs from *Picus cabanisi* in the same manner that *Picus major japonicus* differs from typical *Picus major*. In both cases the typical forms have little or no white on the tertials, whilst in the allied races these feathers have broad white bars across them. In both cases the two forms completely intergrade.

PICOIDES FUNEBRIS.

An example of this species, which is otherwise only known from the type in the Paris Museum, is perhaps the most interesting bird in the collection; it is an adult male. The type is a young male, and was obtained by l'Abbé David at Moupin. The adult differs from the young in having the brown on the underparts replaced by black, with here and there a short streak of white in it.

The Three-toed Woodpecker ranges from Scandinavia to Kamtschatka, extending north of the Arctic Circle in Siberia and down to the Italian Alps in Europe and to Turkestan and Manchuria in Asia. Like many other birds of which the breeding-range extends across the Palæarctic Region, it is represented by a more or less central pale race where the mean temperature during the moulting-season is lowest, and

by an Eastern and a Western dark race where it is highest. The typical race from Scandinavia is, unfortunately, an intermediate form between the arctic race from Siberia, *Picoides tridactylus crissoleucus*, and the western subtropical race from Switzerland, *Picoides tridactylus europæus*. These three races completely intergrade, and are consequently only subspecifically distinct. It is impossible to say whether the eastern races also intergrade. I have never seen an example from Manchuria, nor have I ever heard of examples having been procured in North China or South-east Mongolia.

Picoides funebris must be provisionally regarded as specifically distinct. It is possible that the intermediate forms between it and the typical form have become extinct; it is more probable that they survive, but have not yet been obtained.

The Eastern and Western forms of the Three-toed Woodpecker differ considerably from each other. It is not known that any of the Old-World forms of this bird differ structurally from each other in any way. In *P. funebris* there is less white on the back than in *P. europæus*, and much less than in *P. crissoleucus*, and the white feathers are not crossed as they are in Swiss birds by a subterminal black band. The same difference also applies to the underparts. In typical examples of *P. crissoleucus* the underparts are white, with an occasional tiny streak of black. In *P. funebris* the underparts below the throat are black, with an occasional tiny streak of white. In *P. europæus* the underparts below the throat are black, with large white spots on each side of the feather, which sometimes meet and make a white bar. The fact that young in first plumage of *P. crissoleucus* and of *P. europæus* are more marked with black on the underparts than adults are, whilst those of *P. funebris* are less so, points to a somewhat intermediate common ancestor.

Mr. Pratt's example was obtained amongst the pines and rhododendrons, 13,000 feet above sea-level.

4 GECINUS GUERINI.

An example of this species in the collection has the front half of the occiput crimson, the hind half grey striped with black, and the nape black. It therefore belongs to the

typical form and not to the Formosan subspecies *Gecinus guerini tancola*, typical examples of which have much more black on the crown.

It only occurs up to 5000 or 6000 feet above sea-level.

• ARDEA PRASINOSCELES.

There is a nearly mature example of this species in the collection, which was collected about 10,000 feet above the sea.

‡ IBIDORHYNCHUS STRUTHERSI.

There is a slightly immature example of this species in the collection. It was found on marshy ground near one of the lakes, about 14,000 feet above the sea.

+ SCOLOPAX RUSTICULA.

A Woodcock in the collection does not differ from European examples. It ranges from 10,000 to 12,000 feet above the level of the sea during the breeding-season.

† SCOLOPAX SOLITARIA.

Five eggs from the pine-forests above Ta-chien-lu agree exactly with eggs of this species in the Hume collection from Native Sikkim.

† GALLICREX CRISTATUS.

There is an example of this species in the collection. It frequents reedy places up to 13,000 feet above the sea.

† CROSSOPTILON TIBETANUM.

There is an example of this species in the Swinhoe collection which was sent from Moupin by l'Abbé David. It agrees in every particular with seven examples brought from Western Szechuen, but they all differ from Hodgson's type in the British Museum in having no trace of a white patch on the outer tail-feathers. On the other hand they differ from the descriptions and figures of *Crossoptilon drouyni*, which was sent to the Paris Museum from Moupin by M. Dabry, the French Consul at Hankow, in having much less grey and much more dark brown bronzed with purple and green on the remiges and rectrices. David and Oustalet regard these

differences as questions of age and sex, but among the eight examples in my collection I see no difference of any kind (though some have very large spurs, and others very small rudiments of these appendages) except that in one of them (with scarcely the rudiment of a spur) there is scarcely any purple (only green) gloss on the tail-feathers. It is also worthy of remark that the white patches on the outer rectrices of Hodgson's type are much more developed on one side than on the other.

There is no reason to suppose that Hodgson's type came from the Himalayas. Nothing whatever was known of its locality beyond the fact that it was brought to the capital of Nepal by the Nepalese envoys to Peking on their return journey, and was believed to be from Thibet.

This bird lives in the pine-forests from 10,000 to 12,000 feet above sea-level. They are gregarious birds, and 40 or 50 may be found roosting in company on the pine-trees.

Five eggs vary in size from 2.42 inches by 1.7 to 2.3 inches by 1.72. In colour they resemble eggs of *Perdix petrosa*.

CERIORNIS TEMMINCKI.

Three examples of this curious bird show the wattles extended to their full length, as they are only to be found during the breeding-season. It is a ground species, hiding in the jungle under the pine-trees. It is not known to occur under 10,000 feet above the sea.

LOPHOPHORUS LHUYSI.

There are two examples of this remarkably handsome bird in the collection, but unfortunately one of them is without a head. Along with *Grandala caelicolor* it is found at a higher altitude than any other species. It is especially fond of the root of a bulbous plant called pey-mon (*Fritillaria roylü*), which it digs out of the ground on the rocky moors near the limit of perpetual snow, about 16,000 feet above the sea-level. They roost on the stunted rhododendrons, or descend to the pines.

✓ PUCRASIA XANTHOSPILA.

There is an example of this species in the collection, but from the abraded condition of its wings and tail it seems to have been a cage-bird. It was brought in by a Thibetan to the camp, 13,000 feet above sea-level, but Mr. Pratt did not meet with it alive.

✦ THAUMALEA AMHERSTIÆ.

There are two male Lady Amherst's Pheasants in the collection. These handsome birds live amongst the bamboos in the open spaces in the forests from 10,000 to 12,000 feet above the sea. Below the Ichang Gorge this species is replaced by the Golden Pheasant (*Thaumalea picta*).

PHASIANUS DECOLLATUS.

Of all the true Pheasants this is perhaps the rarest in collections, but in Ta-chien-lu it is the commonest. Mr. Pratt has brought home two examples, but unfortunately they are to all appearance not quite thoroughbred. A few of the feathers on the hind neck are crossed by a terminal or sub-terminal white band. The type in the Swinhoe collection does not show any trace of white on the neck, but in typical examples of *Phasianus torquatus* there is a broad band of white completely round the neck, which is broadest on the fore neck.

Below the Ichang Gorge, *Phasianus torquatus* is common, but above its place is taken by *P. decollatus*. The latter frequents the grassy slopes on the spurs of the mountains up to 9000 feet. In confinement Mr. Pratt observed that it always roosts on the ground. In is found in the brushwood, but avoids the forests.

✦ LERWA NIVICOLA.

There is an example of this species in the collection. It has generally been supposed to live on the heathy moors near the limit of perpetual snow, but Mr. Pratt found it in the forest not more than 5000 feet above the sea. When put up in the open it made for the forest and sought shelter under the rhododendrons.

ITHAGINIS GEOFFROYI.

There are a pair of these birds in the collection. Mr. Pratt procured a clutch of seven eggs from a nest on the ground under the brushwood in the forest, 13,500 feet above the sea. It is a very common bird, and alights and probably roosts in the pine-trees. The eggs vary in size from 2.05 inches by 1.3 to 1.85 by 1.32 inch; in colour they resemble handsome eggs of *Tetrao tetrix*.

XXXIV.—*On British Fossil Birds.* By R. LYDEKKER, B.A.

OWING to the absence in the British Isles of strata corresponding to the freshwater Miocene beds of France in Gers, Allier, and the Auvergne, in which well-preserved bird-remains are of such common occurrence, the list of fossil birds found in this country is comparatively small. The total number of species recorded, indeed, is only slightly over 60; and since some 45 of these belong to existing species, of which the remains are found in caverns, the fens, and other superficial deposits, the list of extinct forms sufficiently well described to be admitted as valid ones falls short of 20. It must not, however, on this account be presumed that the subject of British Fossil Birds is one of only slight interest or importance. Indeed, the very reverse of this is the case, for while the existing species the remains of which occur in the superficial deposits afford some interesting information in regard to geographical distribution, the extinct species found in the London Clay belong either to types totally unknown elsewhere, or represented abroad by kindred but distinct genera. Again, the little that is yet known of the extinct birds of the Upper Eocene beds of Hordwell, in Hampshire, indicates that we have there an avian fauna which contains types at present unknown in the corresponding strata of the Paris basin. Unfortunately the bird-remains from these Hordwell beds are comparatively rare, are frequently very imperfect, and are distributed through several museums, so that the means of comparison and the consequent determi-